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## An assessment of one temporary wetland regeneration after soil disturbance

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Mediterranean temporary wetlands are shallow, small and frequently visited habitats where domestic livestock and wild herbivores generate numerous physical soil disturbances that affect the biomass, species composition and richness of plant communities, with an unknown effect on communities dynamic and speed of regeneration. The present study is a combination of a laboratory and field experiments, in order to verify these hypotheses concerning the vegetation of temporary wetlands. In field, using two sizes of experimental plots (large: 1.20 m x 1.20 m; small: 0.3 m x 0.3 m), the effects of soil disturbances on vegetation dynamics and the vertical distribution of seeds were studied in one Moroccan temporary wetland. In laboratory experiment was carried out using 72 soil samples collected from the same temporary wetland and placed in containers. The total biomass, the annual and perennial species richness was calculated to test the hypothesis. Results show that disturbance reduces the total biomass, especially of perennials, but without significantly increasing the richness of annuals, but a very rapid regeneration of temporary wetland vegetation in disturbed plots. The speed of regeneration depends on the size of disturbance and hydrology. There was an almost complete return of vegetation to the reference state in the small disturbed plots by the end of the 1st year. This fast restoration was mainly due to seed banks, which play a key role in the regeneration of temporary wetland to the different sizes of disturbances frequently generated by herbivores, but also to lateral colonization by perennials.

### Recent Publications

1. Sahib N, Rhazi L and Grillas P (2011) Post-disturbance dynamic of plants in a Mediterranean temporary pool (Western Morocco): Effects of disturbance size. *Canadian Journal of Botany*, 89:105-118.
2. Sahib N, Rhazi L, Grillas P and Rhazi M (2010) Impacts of physical soil disturbance on plant communities in temporary ponds in Morocco. *EPCN Newsletter*, 5:11-12.
3. Sahib N, Rhazi L, Grillas P and Rhazi M (2009) Experimental study of the effect of hydrology and mechanical soil disturbance on plant communities in Mediterranean temporary pools in Western Morocco. *Hydrobiologia* 634:77-86.
4. Bouahim S, Rhazi L, Amami B, Sahib N, Grillas P, Rhazi M and Mesleard F (2008) Le pâturage dans les mares temporaires méditerranéennes : effet sur la richesse des communautés et conséquences pour la gestion. In : Bonis A. (ed.). Editions Tec & Doc Lavoisier, Paris : pp. 39-46.
5. Bouahim S, L Rhazi, B Amami, Sahib N, M Rhazi, A Waterkeyn, A Zouahri, F Mesleard, S D Muller and P Grillas (2010) Impact of grazing on the species richness of plant communities in Mediterranean temporary pools (western Morocco). *Comptes Rendus Biologie* 333:670-679.

### Biography

Nargis Sahib while performing her PhD work mainly focused on the ecology of plant communities of temporary wetlands in the western of Morocco. She was especially interested in studying the impact of soil disturbance on richness and community dynamic. She combined field surveys, experiments in the field (soil disturbance simulation experiment) and in the laboratory. She is working as an Assistant Professor at Mohamed Ist, University, Faculty of Science Oujda (Morocco).

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